Louisville Metro Air Pollution Control District

850 Barret Ave., Louisville, Kentucky 40204
30 September 2014

Federally Enforceable District Origin Operating Permit Statement of Basis

Company: Allied Ready Mix Co., LLC

Plant Location: 1460 Frankfort Ave, Louisville, Kentucky 40206

Date Application Received: 6 August 2009
7 March 2014
Date Admin Complete: 6 October 2009
Date of Draft Permit: 30 September 2014

District Engineer: Bob Wesely **Permit No:** 27640-14-F

Plant ID: 0004 **SIC Code:** 3273 **NAICS**: 327320 **AFS:** 00004

Introduction:

This permit will be issued pursuant to District Regulation 2.17- *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), 1 hr and 8 hr ozone (O_3), and particulate matter less than 10 microns (PM_{10}); is a non-attainment area for particulate matter less than 2.5 microns ($PM_{2.5}$): and partial non-attainment area for sulfur dioxide (SO_2).

Application Type/Permit Activity:

[X] Initial Issuance

[ ] Permit Revision
- [ ] Administrative
- [ ] Minor
- [ ] Significant

[ ] Permit Renewal

Compliance Summary:

[ ] Compliance certification signed
[ ] Compliance schedule included
[ ] Source is out of compliance
[X] Source is operating in compliance

I. Source Information

1. Product Description: Allied Ready Mix Co., LLC is a central mix (wet) ready mix concrete production facility, consisting of two (2) central mix (wet) ready mix concrete batch plants, designated plant #4 and plant #6, and a concrete truck refinish paint shop.

2. Process Description: At central ready mix plants #4 and #6, the dry components of concrete (cement, flyash, sand, and aggregate) are measured and loaded with water into a central mixer that discharges the wet mix concrete into ready mix concrete transit trucks and it is transported to offsite delivery locations. The truck refinish paint shop repaints spot repairs of company owned concrete trucks and equipment.

3. Site Determination: There are no other facilities that are contiguous or adjacent to this facility

Emission Unit Summary:

Emission Unit	Equipment Description
U1	One (1) Rex central mix (wet) ready mix concrete batch plant, plant #4, with Besser mixer, model SM10,with five (5) cement/flyash silos, four (4) outside aggregate/sand conveyors for loading overhead aggregate/sand bins, and C&W Dust Systems, model RA200 baghouse central dust collection system.
U2	One (1) Johnson central mix (wet) ready mix concrete batch plant, plant #6,with Smith mixer, with five (5) cement/flyash silos, four (4) outside aggregate/sand conveyors for loading overhead aggregate/sand bins, and C&W Dust Systems, model RA200 baghouse central dust collector system.
U3	One (1) concrete truck and related equipment refinish shop for spot repairs and repainting of ready mix concrete delivery trucks.

4. Fugitive Sources: The fugitive sources identified by the source are uncontrolled portions of the ready mix concrete units.

5. Permit Revisions:

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	x/__/2014	9/30/2014	Initial	Entire Permit	Initial Issuance

6. Emission Summary:

Pollutant	District Calculated Actual Emissions (tn/yr) 2008 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	0.17	No
NO_x	0.20	No
SO_2	0	No
PM_{10}	4.38	Yes
VOC	2.33	No
Total HAPs	2.32	No
Single HAP	0	No

7. Applicable Requirements:

[ ] PSD	[X] 40 CFR 60	[X] SIP	[X] 40 CFR 63
[ ] NSR	[ ] 40 CFR 61	[X] District-Origin	[X] Other

8. MACT Requirements: The source has no future MACT requirements.

9. Referenced Federal Regulations in Permit:

40 CFR 61, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR 63, Subpart CCCCCC	National emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
40 CFR 80, Subpart I	Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel
40 CFR 89, Subpart B	Emission Standards and Certification Provisions
40 CFR 1039, Subpart B	Emission Standards and Related Requirements

II. Regulatory Analysis

1. Acid Rain Requirements: Allied Ready Mix Co., LLC is not subject to the Acid Rain Program.

2. **Stratospheric Ozone Protection Requirements**: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Allied Ready Mix Co., LLC does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. **Prevention of Accidental Releases 112(r):** Allied Ready Mix Co., LLC does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.

4. **40 CFR Part 64 Applicability Determination:** Allied Ready Mix Co., LLC is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*.

5. **Basis of Regulation Applicability**

a. **Plant-wide**

Allied Ready Mix Co., LLC is a potential major source for the pollutant PM_{10}. Regulation 2.17 – F*ederally Enforceable District Origin Operating Permits* establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source requested limits of the criteria pollutants PM_{10} < 25 tn/yr, and VOC < 25 tn/yr, and Total HAPs < 12.5 tn/yr and largest single HAP < 5.0 tn/yr, to be FEDOOP STAR Exempt as defined by Regulation 5.00, section 1.13.5. The source is not major for Greenhouse Gases.

Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued shall submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit an Annual Compliance Report to show compliance with the permit, by March 1 of the following calendar year. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17, section 3.5.

b. **Emission Unit U1 –** Central mix (wet) ready mix concrete batch plant #4

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E1: Process cement silo #1	60 tn	5/20/72	1.14	Regulation 1.14 requires reasonable measures to prevent particulate particles airborne beyond the worksite.
E2: Process cement silo #2	60 tn	5/20/72		
E3: Process flyash silo	45 tn	5/20/72		
E4: Aggregate/sand weigh hopper	329.2 tn/hr	5/20/72		
E5: Cement/Flyash weigh hopper	56.4 tn/hr	5/20/72		
E6: Mixer loading	400 tn/hr	5/20/72		
E7: Cement storage silo #3	80 tn	5/20/72		
E8: Flyash storage silo	80 tn	5/20/72		
E9: Aggregate stockpiles	NA	5/20/72		
E10: Sand stockpiles	NA	5/20/72	2.17	Regulation 2.17 applies to a source taking a limit to be minor.
E11: Aggregate/sand handling	NA	5/20/72		
E12: Aggregate/sand transfer conveyor	329.2 tn/hr	5/20/72		
E13: Aggregate sand bins	329.2 tn/hr	5/20/72		
E14: Roads & Yard	NA	5/20/72		
E15: Two agg/sand bins loading conveyors	250 tn/hr each	5/20/72	6.09	Regulation 6.09 establishes the requirements for PM emissions from processes in existence or having a construction permit issued prior to September 1, 1976.
E16: Two special aggregate bin loading conveyor	125 tn/hr each	5/20/72		
E17: Agg/sand conveyor loading hoppers (2)	250 tn/hr each	5/20/72		
E18: Special aggregate conveyor loading hoppers (2)	125 tn/hr each	5/20/72		
C1: Central dust collection system, C&W Dust Systems,,	8,000 cfm	3/13/00		

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
baghouse model RA200				

ii. **Standards/Operating Limits**

1) **PM/PM_{10}**

(a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide synthetic limit of less than twenty-five (25) tons in a 12 consecutive month period, for the pollutant PM_{10}.

(b) Regulation 1.14, section 2.1 requires the source to take precautions to prevent particulate matter from becoming airborne beyond the work site.

(c) Construction permit 61-00-C for the baghouse collection system at plant #4, limits the emissions of the pollutant PM_{10}, from the each of the process cement silos, and the process flyash silo, to be less than six and nine-tenths (6.9) tons in a 12 consecutive month period.

(d) Construction permit 61-00-C for the baghouse collection system at plant #4, limits the emissions of the pollutant PM, from the each of the process cement silos, and the process flyash silo, to be less than six and six-tenths (6.6) pounds per hour.

(e) For emission points with a throughput less than 30 tn/hr:

(i) The emission standard for PM at each emission point with a process throughput of less than 30 tn/hr is determined in accordance with Regulation 6.09, section 3.2 as follows:

PM lb/hr limit = $4.1(\text{process weight tn/hr})^{0.67}$

(ii) The PM emissions for cement storage silo filling exceed the standard uncontrolled. The source is required to operate the dust collection system at all times cement storage silo filling occurs in order to show compliance with the Regulation 6.09 lb/hr PM standard.

(f) The emission standard for PM at each emission point with a process throughput of greater than 30 tn/hr is determined in accordance with Regulation 6.09, section 3.2 as follows:

PM lb/hr limit = 55.0 (process weight tn/hr)$^{0.11}$ - 40

2) **Opacity**

Regulation 6.09, section 3.1 establishes an opacity standard of less than 20%.

c. **Emission Unit U2 –** Central mix (wet) ready mix concrete batch plant #6.

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E19: Process cement silos #1	50 tn	5/20/86	1.14	Regulation 1.14 requires reasonable measures to prevent particulate particles airborne beyond the worksite.
E20: Process cement silo #2	60 tn	5/20/86		
E21: Process flyash silo	40 tn	5/20/86		
E22: Aggregate/sand weigh hopper	329.2 tn/hr	5/20/86		
E23: Cement/Flyash weigh hopper	56.4 tn/hr	5/20/86		
E24: Mixer loading	400 tn/hr	5/20/86		
E25: Cement storage silo #3	80 tn	5/20/86	2.17	Regulation 2.17 applies to a source taking a limit to be minor.
E26: Flyash storage silo	80 tn	5/20/86		
E27: Aggregate stockpiles	NA	5/20/86		
E28: Sand stockpiles	NA	5/20/86		
E29: Aggregate handling	NA	5/20/86		

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E30: Aggregate/sand transfer conveyor	329.2 tn/hr	5/20/86	6.09	Regulation 6.09 establishes the requirements for PM emissions from processes in existence or having a construction permit issued prior to September 1, 1976. (Note: Reg. 6.09 is applicable because Plant #6 was relocated from a location in Jefferson Co., established in 1960's.)
E31: Agg/sand bins	329.2 tn/hr	5/20/86		
E32: Roads and yard	NA	5/20/86		
E33: Two agg/sand bins loading conveyors	150 tn/hr each	5/20/86		
E34: Two special aggregate bin loading conveyors	125 tn/hr each	5/20/86		
E35: Agg/sand conveyor loading hoppers (2)	150 tn/hr	5/20/86		
E36: Special aggregate conveyor loading hoppers	125 tn	5/20/86		
C2: Central dust collection system, C&W Dust Systems,, baghouse model RA200	8,000 cfm	11/19/97		

ii. **Standards/Operating Limits**

1) **PM/PM_{10}**

(a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide synthetic limit of less than twenty-five (25) tons in a 12 consecutive month period, for the pollutant PM_{10}

(b) Regulation 1.14, section 2.1 requires the source to take precautions to prevent particulate matter from becoming airborne beyond the work site.

(c) Construction permits 103-86 and 105-86 limit the emissions of the pollutant PM, for each of the two process cement silos at plant #6, to be less than thirty-two and five-tenths (32.5) pounds per hour.

(d) Construction permit 107-86 limits the emissions of the pollutant PM, for the process flyash silo at plant #6, to be less than thirty-two and five-tenths (32.5) pounds per hour.

(e) For emission points with a throughput less than 30 tn/hr:

(i) The emission standard for PM at each emission point with a process throughput of less than 30 tn/hr is determined in accordance with Regulation 6.09, section 3.2 as follows:

PM lb/hr limit = 4.1 (process weight tn/hr)$^{0.67}$

(ii) The PM emissions for cement storage silo filling exceed the standard uncontrolled. The source is required to operate the dust collection system at all times cement storage silo filling occurs in order to show compliance with the Regulation 6.09 lb/hr PM standard.

(f) The emission standard for PM at each emission point with a process throughput of greater than 30 tn/hr is determined in accordance with Regulation 6.09, section 3.2 as follows:

PM lb/hr limit = 55 (process weight tn/hr)$^{0.11}$ - 40

2) **Opacity**

Regulation 6.09, section 3.1 establishes an opacity standard of less than 20%.

d. **Emission Unit U3 –**Truck Refinish Shop

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E37: Ready mix truck and equipment refinish shop C3: Paint shop filters	NA	7/24/00	7.08 7.79	Regulation 7.08 establishes the requirements for PM emissions from new processes that commence construction after 9/1/76. Regulation 7.79 establishes the requirements for VOC emissions from commercial vehicle refinishing operations established after 2/2/94.

ii. **Standards/Operating Limits**

1) **VOC**

(a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide synthetic limit of less than twenty-five (25) tons in a 12 consecutive month period, for the pollutant VOC.

(b) Per construction permit 169-00-C, the emissions of the pollutant VOC, from the truck refinishing process shall be less than five (5) tons in a 12 consecutive month period.

(c) Regulation 7.79 limits the maximum amount of VOC to be contained in the coating and minimum equipment requirements and general work practices.

2) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%.

3) **PM/PM_{10}**

(a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide synthetic limit of less than twenty-five (25) tons in a 12 consecutive month period, for the pollutant PM_{10}.

(b) Regulation 7.79, section 5.1.1, specifies the minimum efficiency of the paint area filtering system.

(c) Construction permit 169-00-C specifies the spray gun minimum transfer efficiency at a specific distance from the surface being coated.

(d) Regulation 7.08, section 3.1.2, limits the PM emissions to 2.34 lb/hr.

4) **HAP**

(a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide

synthetic limit of less than twelve and one-half (12.5) tons in a 12 consecutive month period, for the pollutant Total HAPs.

(b) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source requested a combined total plant-wide synthetic limit of less than five (5) tons in a 12 consecutive month period, for the pollutant largest single HAP.

(c) Regulation 40 CFR 63, Subpart HHHHHH, allows a source to be exempt from the regulation by not using material containing the listed HAPs.

iii. **Monitoring and Recordkeeping**

The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

1) **VOC**

Source shall maintain records as required in Regulation 7.79, section 8.0.

2) **HAPs**

Source shall maintain records as required in 40 CFR 63 Subpart HHHHHH to show exemption from the regulation.

III. Other Requirements

1. Temporary Sources: The source did not request to operate any temporary facilities.

2. Short Term Activities: The source did not report any short term activities.

3. Emissions Trading: N/A

4. Operational Flexibility: The source did not request any operation flexibility.

5. Compliance History:

Incid. #	Date	Regulation Violated	Settlement
06101	9/14/2011	Reg. 1.14, section 2, Failure to control fugitive emissions of	Agreement with fine

Incid. #	Date	Regulation Violated	Settlement
		particulate matter that traveled beyond property boundaries.	
06379	9/13/2012	Reg. 1.14, section 2, Same	Agreement with fine

6. Calculation Methodology or Other Approved Method:

Concrete Batch Plants (U1&U2): Emission factors from AP-42, Chapter 11.12, Concrete Batching, were used to determine Potential To Emit and confirm limits requested by the source. TAC emissions shall be determined based on lab analysis or the MSDS of the materials used to make the ready mix concrete.

Cold Solvent Parts Washer: The following equation shall be used to determine VOC emissions from the cold solvent parts washer with secondary reservoir:

$$q = A\left(\frac{Pa \cdot Mw}{R \cdot T}\right)\left(\frac{Di}{Z2 - Z1}\right)\ln\left(\frac{1}{1 - Yci}\right)EM$$

where

q = emission rate at the liquid surface, kg/sec
Pa = (atmospheric pressure) = 760 mmHg = 100 x 10^3 N/m^2
R = (Ideal Gas Constant) = 8.314 x 10^3 J/kmol°K
T = (liquid temperature) = (273.15 + 20) = 293.15 °K
Z2 - Z1 = empty vapor space above the liquid level in the tank = 0.001m
EM = 1.1 = 10% increase of the emissions to include working losses.
Mw = molecular weight, kg/kmol
Di = Diffusivity through air, m^2/s
Yci = volatile fraction of component in air = vapor pressure/ 760 mmHg
A = surface area, m^2

7. Insignificant Activities

Equipment	Quantity	PTE (tpy)	Basis for Exemption
Tanks for storage of lubricating or fuel oils, vapor pressure < 10 mm of Hg @ 26ºC and 760 mm Hg. Includes 12,000 gal diesel fuel tank.	5	1.38 VOC	Reg. 1.02, Appendix A
2,000 gal gasoline storage tank (IA1)	1	1.62 VOC	Reg. 1.02
Brazing, soldering or welding equipment	3	1.23 PM	Reg. 1.02, Appendix A
Miscellaneous unit heaters	9	< 5.0 NO_x	Reg. 1.02, Appendix A
5.5 mmbtu/hr natural gas fueled hot water heaters	2	2.36 NO_x	Reg. 1.02

Equipment	Quantity	PTE (tpy)	Basis for Exemption
Cold solvent parts washer equipped with secondary reservoir: This equipment is subject to Regulation 6.18 and shall comply with the applicable requirements	2	0.016VOC	Reg. 1.02, Appendix A
Emergency Generator (IA2)	1	< 5.0 NO_x	Reg. 1.02
Twelve (12) pressurized LP gas and acetylene tanks are deleted from the Insignificant Activities list due to their trivial emissions.			

1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.

2) Insignificant activities identified in District Regulation 1.02, Appendix A, shall comply with generally applicable requirements.

3) Activities identified in Regulation 1.02, Appendix A, may not require a permit and by insignificant with regard to application disclosure requirement but may still have generally applicable requirements that continue to apply to the source and must be included in the permit.

4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5) In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment.

6) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

7) The owner or operator shall submit an updated list of insignificant activities whenever changes in equipment located at the facility occur that cause changes to the plant wide emissions.

8. IA Emission Units with Applicable Regulations

a. **Emission Unit IA1** – Gasoline Dispensing Tank

i. **Equipment**

Equipment	Capacity	Applicable Regulation	Basis for Applicability
IA1: Gasoline storage tank	2,000 gal	6.40 7.15 40 CFR 63 Subpart CCCCCC	Limits the throughput for class I gasoline dispensing Applies to gasoline tanks equipment and operation to dispense gasoline. Applies to the loading of gasoline storage tanks at gas dispensing facilities

ii. **Standards/Operating Limits**

1) **VOC**

(a) Regulation 6.40, section 2.2.1, exempts gasoline dispensing units with a throughput of gasoline of less than 10,000 gallons per month from sections 3.0 through 6.0.

(b) Regulation 7.15 specifies the required equipment to be used with the gasoline dispensing unit.

2) HAPs

Regulation 40 CFR 63 Subpart CCCCCC establishes limitations and management practices for HAPs emitted from the loading of gasoline storage tanks at gasoline dispensing facilities.

iii. **Reporting**

VOC

Regulation 6.40, section 2.2.1, requires the facility to submit records to the District by April 15th of each year, demonstrating that it met the conditions during the previous calendar year.

b. **Emission Unit IA2** – Emergency Generator

i. **Equipment**

Emission Point	Description	Applicable Regulation	Basis for Applicability
IA2: Emergency Generator	Emergency diesel generators installed after July 11, 2005, and manufactured after April 1, 2006,	40 CFR 60, Subpart IIII	40 CFR 60 Subpart IIII applies to manufacturers, owners or operators of new stationary compression ignition reciprocating internal combustion engines (RICE).

Emission Point	Description	Applicable Regulation	Basis for Applicability
	with a maximum engine power less than or equal to 500 hp and located at an area source of HAP	40 CFR 63, Subpart ZZZZ	40 CFR 63 Subpart ZZZZ establishes national emission limitations and operating limitations for HAP emitted from stationary RICE located at major and area sources of HAP emissions.

ii. **Standards/Operating Limits**

1) Unit Operation

(a) 40 CFR §60.4202 and §60.4205 establish emission standards for the owner or operator or manufacturer of the emergency stationary CI RICE.

(b) 40 CFR §60.4211 establishes unit operation requirements for emergency stationary CI RICE.

2) Fuel Requirements

40 CFR §60.4207 establishes the requirements for nonroad diesel fuel.

iii. **Monitoring and Record Keeping**

Unit Operation

40 CFR §60.4209(a) and §60.4214(b) establish monitoring and record keeping requirements for emergency stationary CI RICE.

iv. **Reporting**

Unit Operation

40 CFR §60.4214 establishes reporting requirements for emergency stationary CI RICE

v. **Testing**

40 CFR §60.4212 establishes testing requirements for emergency stationary CI RICE.